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(71) Applicant (for all designated states except the  
United States): INFINEON TECHNOLOGIES AG  
[DE/DE]; St.-Martin-Str. 53, D-81541 Munich (DE)

(72) Inventor; and

(75) Inventor/Applicant (for US only): EDER,  
Stefan [DE/DE]; Schwarzmaierstr. 9, D-94481  
Grafenau (DE).

(74) Joint representative:: INFINEON  
TECHNOLOGIES AG; Zedlitz, Peter, Postfach 22 13  
17, D-80503 Munich (DE).

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- with International Search Report  
- prior to the period allowed for amendments to the  
claims; publication will be repeated if changes are  
made.

To explain the two-letter code and the other  
abbreviations, the reader is referred to the explanations  
("Guidance Notes on Codes and Abbreviations") at the  
beginning of each regular edition of the PCT Gazette.

(54) Title: CIRCUIT COMPRISING AN INTEGRATED SWITCHING CIRCUIT AND A VOLTAGE  
REGULATING CIRCUIT

[figure]

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(57) Abstract: A stabilized power supply voltage is required in order to operate a plurality of electronic circuits. In the case of circuits, in particular, that are supplied with voltage via a data bus, only one non-regulated power supply voltage is available. The invention provides that, in addition to the switching circuit, a voltage regulation circuit for carrying out the original function is integrated into the circuit. By integrating the voltage regulating circuit, the provision of an external voltage regulator is no longer necessary.

PCT/CT RES'D 29 JUL 2001

# INTERNATIONAL PATENT COOPERATION TREATY

From: AUTHORITY RESPONSIBLE FOR  
INTERNATIONAL PRELIMINARY EXAMINATION

<b>To:</b>  WESTPHAL, MUSSGUG & PARTNER Mozartstasse 8 D-80336 Munich GERMANY  [receipt stamp: Sept. 3, 2001]		<div style="text-align: center;"><b>PCT</b></div> NOTIFICATION OF TRANSMISSION OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Rule 71.1)	
<b>Applicant or Agent file number:</b> 10096		<b>IMPORTANT NOTIFICATION</b>	
<b>International file number:</b> PCT/DE00/01737	<b>International application date</b> (day/month/year) 29/05/2000	<b>Priority date (day/month/year)</b>  02/06/1999	
<b>Applicant</b> MICRONAS MUNICH GMBH et al.			

- The applicant is hereby informed that the authority responsible for the international preliminary examination is hereby transmitting thereto the international preliminary examination report for the international application, which may be accompanied by attachments.
- A copy of the report, with attachments if any, is being sent to the International Office for forwarding to all the offices selected.
- At the request of a selected office, the International Office will prepare a translation of the report (but not the enclosures) into English and send it to this office.
- REMINDER**  
 At the start of the national phase, the applicant must take certain steps (filing translations and paying national fees) with each selected office within 30 months of the priority date (or later in the case of some offices) (Article 39(1)) (see also information sent on Form PCT/IB/301 by the International Office).

If a translation of the international application is to be sent to a selected office, this translation must also include translations of all enclosures with the international preliminary examination report. It is the responsibility of the applicant to prepare such translations and send them directly to the selected offices concerned.

Further details of critical deadlines and requirements of the selected offices may be found in Volume II of the PCT Applicant Guide.

<b>Name and address of authority responsible for international preliminary examination:</b> European Patent Office D-80298 Munich Tel. +49 89 2399-0 Tx: 523656 epmu d Fax: +49 89 2399-4465	<b>Clerk:</b> Camps I Amigo, M.E.  Tel. +49 89 2399-2237  <div style="text-align: right;">[seal]</div>
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**INTERNATIONAL PATENT COOPERATION TREATY**  
**PCT**  
**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**  
**(PCT Article 36 and Rule 70)**

Applicant or Agent file number: 10096	<b>FURTHER ACTION</b>	See notification of transmission of International Preliminary Examination Report (Form PCT/IPEA/416)
International File No: PCT/DE00/01737	International application date: ( <i>day/month/year</i> ): 29/05/2000	Priority date ( <i>day/month/year</i> ): 02/06/1999
International Patent Classification (IPC) or national classification and IPC: G05F1/46		
Applicant MICRONAS MUNICH GMBH et al.		

1. This International Preliminary Examination Report has been issued by the authority responsible for international preliminary examination and is forwarded to the applicant under Article 36.
2. This REPORT has a total of 6 pages including this cover sheet.
  - ☐ The Examination Report also includes ATTACHMENTS; these consist of sheets with specifications, claims, and/or drawings which were amended and form the basis for this report, and/or pages with corrections made by this authority (see Rule 70.16 and Section 607 of the PCT guidelines).

These attachments comprise a total of      pages.

3. This Examination Report contains information on the following points:
  - I      ☒ Basis of examination report
  - II     ☐ Priority
  - III    ☐ No opinion issued regarding novelty, inventive activity, or commercial applicability
  - IV    ☐ Lack of uniformity of invention
  - V     ☒ Finding, with supportive reasoning according to Article 35(2), regarding novelty, inventive activity, and commercial applicability; documents and explanations in support of this finding
  - VI    ☐ Specific documents cited
  - VII   ☒ Specific flaws in international application
  - VIII ☒ Specific comments on international application

Date application filed: 02/11/2000	Issue date of this report: 31.08.2001
Name and address of authority responsible for international preliminary examination: European Patent Office D-80298 Munich Tel. +49 89 2399-0 Tx: 523656 epmu d Fax: +49 89 2399-4465	Clerk: Jonda, S.  Tel. +49 89 2399-2175  [seal]

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application Number PCT/DE 00/01737

## I. Basis of Report

1. Regarding the **components** of the international application (*replacement pages filed with the Application Office in response to a request under Article 14 are deemed "originally filed" in the context of this report and are not attached because they contain no amendments (Rules 70.16 and 70.17))*):

**Specification, pages:**

1-7 original version

**Claims, Nos.:**

1-7 original version

**Figures, pages:**

1/2-2/2 original version

2. Regarding **language**: All the components listed above are available to the authority in the language in which the international application was filed or were filed in this language unless otherwise stated below.

The components are available to the authority in language: or were filed in this language; these are:

- ☐ the language of the translation filed for purposes of the international search (according to Rule 23.1(b));
- ☐ the language in which the international application was published (according to Rule 48.3(b)).
- ☐ the language of the translation filed for purposes of the international preliminary examination (according to Rule 55.2 and/or 55.3).

3. Regarding the **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was conducted on the basis of the sequence protocol which:

- ☐ is contained in the international application in written form;
- ☐ was filed together with the international application in computer-readable form;
- ☐ was filed with the authority subsequently in written form;
- ☐ was filed with the authority subsequently in computer-readable form;
- ☐ the declaration that the sequence protocol subsequently filed in writing does not go beyond the disclosure content of the international application, at the time it was applied for, was submitted;
- ☐ the declaration that the information entered in computer-readable form corresponds to the written sequence protocol was submitted.

4. Because of the amendments, the following documents no longer apply:

**INTERNATIONAL PRELIMINARY EXAMINATION  
REPORT**

International Application Number **PCT/DE 00/01737**

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- ☐ specification, pages:
- ☐ claims, nos.:
- ☐ drawings, page:
- 5. ☐ This report was issued without taking into account (some of) the amendments, as these, for the reasons stated, in the opinion of the authority go beyond the content disclosed in the version originally filed (Rule 70.2 c)).

*(Reference should be made in Point 1 to replacement pages containing such amendments; they should be attached to this report).*

- 6. Any additional remarks:

**V. Finding with supporting reasons according to Article 35(2) regarding novelty, inventive activity, and commercial applicability; documents and explanations in support of this finding.**

**1. Finding**

Novelty	Yes: Claims 4-7 No: Claims 1-3
Inventive activity:	Yes: Claims No: Claims 4-7
Commercial applicability:	Yes: Claims 1-7 No: Claims

- 2. Documents and explanations  
**see attachment**

**VII. Specific flaws in international application**

It has been found that the intentional application has the following deficiencies of form or content:  
**see attachment**

**VIII. Special comments on international application**

Regarding clarity of the claims, specification, and drawings, or the question of whether the claims are fully supported by the specification, the following should be pointed out:  
**see attachment**

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT – ATTACHMENT

International Application Number PCT/DE 00/01737

**Section V**

The following documents D1-D3 are to be deemed relevant prior art:

D1: EP 0 843 247 A (Nippon Electric Co.), May 20, 1998 (1998-05-20)

D2: US 4 833 341 A (Watanabe, Yohji, et al.), May 23, 1989 (1989-05-23)

D3: US 5 483 152 A (Hardee, Kim C., et al.), January 9, 1996 (1996-01-09)

1. In each of Figs. 1 and 3, Document D1 shows a circuit with a switching circuit (34, 114) integrated on a substrate material, a voltage regulating circuit (32, 112) being integrated on the substrate material as well in order to furnish a supply voltage, there being an internal link (33, 113) in the circuit for the conveying of the supply voltage from the voltage regulating circuit (32, 112) to the switching circuit (34, 114) and the voltage regulating circuit (32, 112) exhibiting a contact (35, 115) accessible outside the circuit at which the supply voltage can be taken off.

Accordingly, the subjects of Claims 1-3 are not novel (Article 33(2) PCT).

The subjects of Claims 1 and 2 are furthermore known from documents D2 (Fig. 1) and D3 (Fig. 1).

2. In view of the prior art known from D1-D3, the object to be achieved with the present application can be seen in the creation of a circuit comprising a switching circuit integrated on a substrate material and a voltage regulating circuit independent thereof.

The feature defined in Claim 4 of the present application cannot, however, be deemed inventive on the following grounds (PCT Article 33(3)):

The feature that the switching circuit is electrically isolated from the voltage regulating circuit on the substrate material relates specifically only to a slight structural modification of the circuit, which falls within the bounds of what an individual skilled in the art of integrated switching circuits takes care to do on the basis of arguments routine

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to him, especially as the advantages gained therewith are immediately obvious.

The feature defined in Claim 5, namely that the contact is connected to the switching circuit via an electrical connection led outside the substrate material, would also be an embodiment obvious to an individual skilled in the art or immediately derivable from the circuit, in case of an electrical isolation of the voltage regulating circuit with the switching circuit, because the switching circuit is to be supplied from the voltage regulating circuit.

The feature of independent Claim 6, that the contact is connected to the switching circuit via a switch, would be an embodiment obvious to an individual skilled in the art or immediately derivable from the circuit, if the switching circuit is not to be permanently supplied from the voltage regulating circuit. For the same purpose, namely the electrical supply of the circuit from the voltage regulating circuit or an external voltage source as selected, a switch is already provided, namely in the circuit from document D1 (Fig. 2). To an individual skilled in the art it was therefore obvious to apply this feature also in a circuit according to Claim 4 with corresponding effect and in this way to arrive at a circuit according to Claim 6.

The feature of Claim 7 merely defines an embodiment of the circuit that is normal in the field.

For the reasons cited above, the subjects of Claims 4-7 do not rest on an inventive step (PCT Article 33(3)).

**Section VII**

Independent Claim 1 is not written in correct two-part form pursuant to Rule 6.3 b) PCT.

The preamble to the Specification is not adapted to the pertinent prior art disclosed in documents D1-D3 (PCT Rule 5:1 (ii)).

**INTERNATIONAL PRELIMINARY EXAMINATION REPORT – ATTACHMENT**International Application Number **PCT/DE 00/01737****Section VIII**

The reference numeral (13) defined in Claim 6 is incorrect.